

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776633

Luminaire Tested: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-4000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776633
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B009)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-4000K
Description: 4 INCH SQUARE MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4215.8 lumens
Efficiency: N/A
Efficacy: 87.8 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.14 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

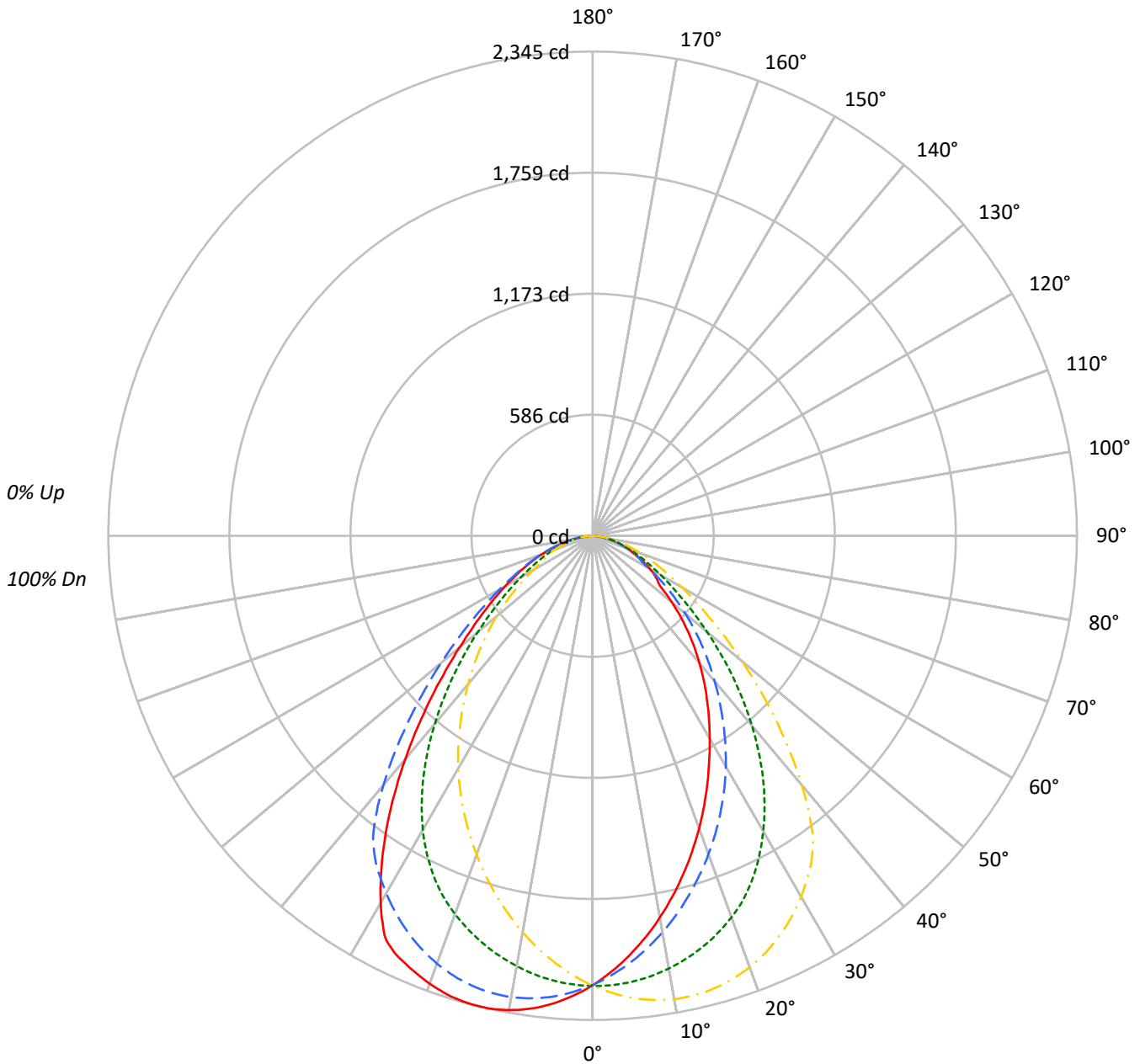
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88								
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76								
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66								
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58								
5	81	70	62	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52								
6	75	63	55	50	74	62	55	49	61	54	49	59	53	49	58	52	48	46								
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42								
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38								
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34								
10	58	46	38	34	57	45	38	34	44	38	33	43	37	33	43	37	33	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	274000	274000	274000	274000
5°	257765	273960	287554	273240
10°	239839	271940	298099	270534
15°	220984	268461	305229	266403
20°	201908	263407	309143	261036
25°	182781	254447	311421	252711
30°	164792	240139	298180	238962
35°	148211	221110	267769	219497
40°	132167	197159	231560	195352
45°	115686	169827	195794	168813
50°	98227	141319	165010	142240
55°	84891	115850	141148	118900
60°	80770	96200	123031	100655
65°	72362	81176	108811	86894
70°	64761	69876	95927	76205
75°	57231	60246	82321	67442
80°	45079	50297	63777	58921
85°	22093	36532	30323	48373

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 225°
 Vertical Angle: 45°
 Luminance: 223203 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.7	4.9
10°-20°	572.6	13.6
20°-30°	827.0	19.6
30°-40°	889.7	21.1
40°-50°	738.3	17.5
50°-60°	496.8	11.8
60°-70°	300.6	7.1
70°-80°	151.9	3.6
80°-90°	34.1	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1604.3	38.1
0°-40°	2494.0	59.2
0°-60°	3729.1	88.5
0°-90°	4215.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4215.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2177	2177	2177	2177	2177	
5°	2040	2169	2276	2163	2040	190
15°	1696	2060	2343	2045	1696	475
25°	1316	1832	2243	1820	1316	605
35°	965	1439	1743	1429	965	603
45°	650	954	1100	948	650	501
55°	387	528	643	542	387	353
65°	243	273	365	292	243	242
75°	118	124	169	139	118	125
85°	15	25	21	34	15	23
90°	0	0	0	0	0	



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CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2177.2	2177.2	2177.2	2177.2	2177.2	2177.2	2177.2	2177.2	2177.2	2177.2	2177.2
0.5°	2164.3	2164.3	2166.7	2171.5	2180.6	2183.9	2186.8	2188.2	2188.2	2186.3	2183.4
1°	2151.9	2152.8	2158.1	2166.7	2180.6	2188.2	2194.9	2198.7	2199.7	2196.8	2191.1
1.5°	2139.0	2140.9	2149.0	2161.4	2180.1	2192.0	2202.6	2208.8	2210.7	2206.4	2198.3
2°	2126.0	2128.9	2139.4	2155.7	2179.1	2195.9	2209.7	2218.8	2221.2	2216.0	2205.9
2.5°	2112.2	2116.0	2129.4	2150.0	2178.2	2199.2	2216.9	2227.9	2231.3	2225.5	2212.6
3°	2098.8	2103.6	2119.8	2143.7	2176.7	2202.6	2223.6	2237.0	2241.3	2234.1	2218.8
3.5°	2084.4	2090.2	2109.3	2137.5	2175.3	2205.0	2229.8	2246.1	2250.4	2242.7	2225.0
4°	2070.1	2077.3	2098.3	2130.8	2172.9	2207.8	2236.1	2254.2	2259.5	2250.9	2230.8
4.5°	2055.3	2062.9	2087.3	2123.6	2171.0	2209.7	2241.8	2261.9	2268.1	2258.5	2235.6
5°	2040.4	2049.5	2076.3	2116.5	2168.6	2211.7	2247.1	2269.5	2276.2	2265.7	2240.8
5.5°	2024.6	2035.2	2064.3	2108.8	2165.7	2213.1	2251.8	2276.7	2283.9	2272.4	2245.1
6°	2009.3	2020.3	2052.9	2101.2	2162.9	2214.5	2256.1	2283.4	2291.1	2279.1	2249.4
6.5°	1994.0	2005.0	2040.9	2093.0	2159.5	2215.0	2260.4	2289.1	2297.8	2284.8	2253.3
7°	1977.8	1990.7	2028.5	2085.4	2155.7	2215.5	2264.3	2294.9	2304.4	2290.1	2256.6
7.5°	1961.0	1974.9	2015.6	2076.3	2151.9	2215.5	2267.6	2300.1	2310.2	2295.4	2259.5
8°	1945.2	1959.6	2003.1	2067.7	2147.6	2215.5	2270.5	2305.4	2315.4	2300.1	2261.9
8.5°	1928.5	1943.8	1990.2	2058.6	2142.8	2215.0	2272.9	2309.7	2320.7	2304.0	2263.8
9°	1911.3	1928.0	1976.8	2049.5	2138.0	2214.0	2275.3	2313.5	2325.0	2307.8	2265.7
9.5°	1894.1	1911.3	1962.9	2039.5	2133.2	2212.6	2277.2	2316.9	2328.8	2311.1	2267.1
10°	1876.8	1895.0	1949.5	2029.9	2128.0	2211.2	2278.6	2320.2	2332.7	2314.0	2268.1
10.5°	1859.2	1878.8	1935.7	2019.9	2122.2	2209.3	2279.6	2323.1	2335.5	2316.4	2269.1
11°	1841.9	1862.0	1921.8	2009.8	2116.5	2207.4	2280.1	2325.0	2338.4	2318.3	2269.1
11.5°	1824.2	1845.3	1907.5	1998.8	2110.3	2205.0	2280.1	2326.9	2340.3	2319.8	2268.6
12°	1805.6	1828.5	1892.6	1988.3	2104.0	2202.1	2280.1	2328.4	2342.2	2320.7	2268.1
12.5°	1787.9	1810.8	1878.3	1977.3	2097.3	2199.2	2279.6	2328.8	2343.7	2321.7	2267.1
13°	1770.2	1793.6	1863.5	1966.3	2090.6	2195.9	2278.1	2329.3	2344.1	2321.7	2265.7
13.5°	1751.5	1776.4	1848.6	1955.3	2083.5	2192.0	2276.7	2329.3	2344.6	2321.2	2263.8
14°	1733.4	1759.2	1832.8	1943.8	2076.3	2187.7	2274.8	2328.8	2344.6	2320.2	2261.4
14.5°	1714.7	1741.5	1817.5	1931.9	2068.6	2183.9	2272.9	2327.9	2343.7	2318.8	2258.5
15°	1696.1	1722.8	1802.2	1919.9	2060.5	2179.1	2270.0	2326.4	2342.7	2317.4	2255.7
15.5°	1677.4	1705.1	1786.9	1907.9	2052.4	2174.3	2267.1	2324.5	2341.3	2315.4	2252.3
16°	1658.7	1687.4	1771.1	1896.0	2044.3	2168.6	2263.8	2322.1	2339.4	2313.1	2248.5
16.5°	1640.6	1669.3	1754.9	1883.5	2035.6	2163.3	2260.0	2319.8	2337.0	2310.2	2244.2
17°	1621.4	1651.6	1739.1	1870.6	2026.6	2157.1	2256.1	2316.9	2334.1	2306.4	2239.9
17.5°	1602.8	1632.4	1722.8	1857.7	2017.0	2150.9	2251.4	2313.1	2330.8	2302.5	2234.6
18°	1583.6	1614.3	1707.1	1844.8	2007.4	2143.7	2246.6	2308.8	2326.9	2298.2	2229.4
18.5°	1565.0	1596.1	1690.8	1831.4	1997.9	2137.0	2241.3	2304.4	2322.6	2293.4	2223.6
19°	1545.9	1577.4	1674.0	1817.5	1987.8	2129.9	2235.6	2299.7	2318.3	2288.7	2217.9
19.5°	1526.3	1558.8	1657.8	1804.1	1977.3	2121.7	2229.4	2294.4	2313.5	2282.9	2211.7
20°	1507.6	1540.6	1640.6	1790.3	1966.8	2114.1	2223.1	2288.7	2308.3	2277.2	2205.0
20.5°	1488.5	1521.9	1624.3	1775.9	1955.8	2105.5	2216.4	2282.4	2302.5	2271.0	2197.3
21°	1469.3	1503.3	1607.6	1761.6	1944.3	2096.9	2209.3	2276.2	2296.8	2264.3	2190.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1411.9	1447.3	1556.4	1717.6	1906.5	2068.6	2185.8	2254.7	2277.2	2242.3	2165.3
23°	1392.3	1428.2	1538.7	1701.8	1893.1	2057.6	2177.2	2247.1	2270.5	2234.6	2156.7
23.5°	1373.7	1410.0	1521.9	1686.5	1878.3	2046.6	2168.1	2238.9	2263.3	2226.5	2147.6
24°	1354.5	1390.9	1504.3	1669.3	1863.5	2034.7	2158.1	2231.3	2256.6	2218.4	2138.0
24.5°	1334.9	1372.2	1487.0	1653.0	1848.1	2021.8	2148.5	2222.7	2249.9	2209.3	2128.0
25°	1316.3	1353.6	1468.9	1635.8	1832.4	2008.4	2138.5	2214.0	2242.7	2200.7	2117.9
25.5°	1297.6	1334.5	1451.6	1618.6	1816.6	1994.5	2128.4	2205.9	2233.2	2192.0	2106.9
26°	1279.0	1315.8	1433.9	1600.4	1799.8	1980.6	2117.4	2197.8	2222.7	2183.9	2096.4
26.5°	1260.3	1297.6	1416.2	1583.2	1782.6	1965.3	2106.4	2189.2	2211.7	2174.8	2084.9
27°	1241.7	1278.5	1398.5	1565.0	1764.9	1949.5	2095.0	2180.1	2200.2	2165.7	2073.4
27.5°	1223.5	1260.3	1380.9	1546.8	1746.7	1933.8	2083.5	2168.1	2182.0	2153.8	2061.9
28°	1204.8	1241.7	1362.7	1528.2	1728.6	1917.0	2071.5	2156.2	2157.1	2141.3	2050.0
28.5°	1187.1	1223.5	1345.0	1509.5	1709.9	1899.8	2059.1	2144.2	2131.8	2128.9	2037.6
29°	1169.4	1204.8	1326.3	1490.4	1691.3	1882.1	2046.2	2130.8	2108.3	2115.5	2024.6
29.5°	1151.3	1187.6	1308.1	1471.7	1671.7	1863.5	2032.8	2110.3	2080.1	2095.0	2011.7
30°	1134.0	1169.9	1289.5	1452.1	1652.5	1844.3	2019.4	2084.4	2051.9	2070.1	1998.8
30.5°	1116.4	1151.7	1270.8	1433.0	1632.0	1825.7	2005.0	2059.6	2023.7	2044.7	1985.4
31°	1099.1	1132.6	1252.2	1413.4	1612.3	1806.5	1990.2	2035.6	1995.0	2020.3	1972.0
31.5°	1081.9	1116.4	1233.1	1393.8	1591.3	1786.0	1974.9	2007.4	1963.4	1993.1	1958.2
32°	1064.7	1098.7	1214.4	1374.2	1570.7	1765.9	1960.1	1979.2	1933.3	1965.3	1944.3
32.5°	1048.0	1081.9	1195.7	1354.5	1549.7	1744.8	1945.2	1950.5	1903.2	1938.1	1930.4
33°	1031.2	1064.7	1177.1	1334.5	1528.2	1723.8	1929.5	1922.8	1871.6	1909.4	1916.1
33.5°	1014.5	1048.0	1158.4	1314.8	1505.7	1702.3	1913.2	1892.6	1839.5	1880.7	1901.2
34°	998.2	1031.2	1139.3	1294.3	1484.6	1680.3	1896.0	1863.0	1807.0	1850.1	1884.5
34.5°	981.0	1014.0	1120.2	1274.2	1461.7	1656.8	1876.8	1831.9	1775.0	1820.9	1866.3
35°	964.7	996.3	1101.5	1253.6	1439.2	1634.8	1857.7	1802.2	1742.9	1790.8	1847.2
35.5°	948.5	981.0	1082.9	1233.5	1416.2	1610.9	1837.1	1770.7	1709.9	1761.1	1828.5
36°	932.7	964.3	1064.7	1213.0	1392.3	1587.5	1816.1	1739.6	1676.4	1730.0	1808.9
36.5°	916.4	948.0	1045.6	1192.9	1368.9	1563.6	1790.3	1707.5	1644.4	1698.9	1785.0
37°	900.2	931.7	1027.4	1172.3	1345.9	1538.7	1760.1	1676.4	1610.9	1668.8	1755.8
37.5°	883.9	915.0	1008.7	1151.3	1321.5	1513.3	1730.0	1644.4	1577.0	1637.7	1727.6
38°	867.6	898.7	990.6	1130.7	1297.1	1488.0	1700.8	1612.3	1542.5	1606.1	1698.9
38.5°	851.9	882.5	972.9	1109.7	1272.8	1462.6	1670.7	1578.9	1510.9	1574.1	1670.2
39°	836.5	866.7	954.7	1089.1	1248.8	1436.8	1638.7	1548.7	1477.9	1544.0	1638.7
39.5°	820.3	850.9	936.5	1068.0	1224.4	1410.5	1606.6	1515.7	1444.0	1512.9	1607.6
40°	804.5	834.2	918.8	1047.0	1200.1	1383.7	1574.6	1482.7	1409.5	1480.8	1575.5
40.5°	788.7	818.4	901.1	1026.4	1174.7	1357.4	1542.5	1450.2	1379.9	1448.3	1544.0
41°	772.9	802.6	883.9	1005.4	1150.3	1330.6	1509.5	1420.1	1347.8	1419.1	1512.4
41.5°	757.6	786.8	866.2	984.8	1125.4	1303.8	1477.0	1388.0	1313.9	1388.0	1478.9
42°	741.8	771.0	849.0	963.8	1101.0	1277.1	1444.0	1354.5	1282.8	1355.5	1446.9
42.5°	726.5	755.2	831.8	943.7	1076.7	1249.3	1411.9	1324.4	1253.1	1325.8	1413.9
43°	711.2	739.5	814.5	923.1	1051.8	1222.5	1379.4	1294.3	1222.1	1296.2	1382.3
43.5°	695.4	724.1	797.3	902.6	1026.9	1195.3	1346.9	1261.8	1187.6	1265.1	1349.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	650.0	677.8	747.1	841.8	954.2	1113.5	1249.8	1172.3	1100.1	1178.1	1254.1
45.5°	634.7	662.4	730.4	821.7	929.8	1086.7	1216.8	1139.3	1071.9	1146.5	1222.5
46°	620.4	647.6	714.1	802.1	905.9	1059.9	1184.7	1111.1	1046.5	1116.8	1191.0
46.5°	604.6	632.3	697.4	782.0	882.0	1032.6	1154.1	1084.3	1017.8	1092.4	1161.3
47°	589.7	617.0	681.1	762.9	858.1	1005.9	1123.0	1054.2	986.7	1063.7	1130.2
47.5°	574.9	601.7	664.4	743.3	834.6	979.1	1091.5	1022.6	964.7	1032.6	1100.1
48°	560.6	586.9	649.1	724.1	811.2	952.8	1059.9	999.2	940.8	1008.3	1070.0
48.5°	545.3	571.6	632.8	705.0	788.7	926.9	1031.7	972.4	912.6	983.9	1042.7
49°	530.9	557.2	617.0	686.8	766.2	901.1	1002.5	942.3	887.7	955.6	1013.5
49.5°	516.6	542.4	601.2	668.2	744.2	875.8	972.4	915.9	866.7	927.9	984.8
50°	501.7	527.6	585.4	649.5	721.8	849.5	943.2	892.5	842.8	905.9	956.1
50.5°	486.9	512.7	570.1	631.4	700.7	825.1	916.9	866.2	816.0	881.5	931.2
51°	473.0	498.4	554.8	614.1	679.7	799.7	888.7	838.0	797.8	852.3	904.0
51.5°	458.7	484.0	539.5	596.4	659.6	776.3	860.9	818.4	778.2	832.7	877.2
52°	444.8	469.7	524.7	579.2	639.0	751.4	836.5	795.4	752.8	810.7	851.4
52.5°	430.9	455.3	509.9	562.5	618.9	728.5	811.2	768.1	734.7	785.8	829.4
53°	418.0	441.0	495.5	545.7	599.8	704.5	784.4	748.5	717.0	762.4	802.6
53.5°	405.6	427.1	480.7	529.5	581.6	682.1	760.0	728.9	696.4	744.2	777.7
54°	397.9	413.7	466.3	513.2	563.0	659.1	737.1	706.0	676.3	722.2	755.7
54.5°	392.7	400.3	452.5	497.4	545.3	637.1	713.6	684.9	661.0	698.8	734.2
55°	386.9	387.9	438.6	482.6	528.0	616.0	689.7	667.7	643.3	682.5	710.3
55.5°	381.7	375.9	425.2	467.8	511.3	594.5	669.6	648.1	623.7	663.9	688.8
56°	375.5	369.7	411.3	453.4	495.0	574.4	647.6	627.5	609.8	641.4	668.7
56.5°	369.2	364.5	397.9	439.1	479.3	555.3	625.6	611.7	594.0	625.6	647.6
57°	363.5	358.7	385.0	425.2	463.5	536.2	606.5	594.0	575.9	609.4	626.6
57.5°	356.8	353.0	372.1	411.3	449.1	517.5	587.4	574.9	563.0	589.7	609.4
58°	350.6	346.8	360.2	398.4	434.3	500.3	566.8	561.0	548.6	574.0	589.7
58.5°	343.4	341.0	347.7	386.0	420.9	483.1	549.6	545.3	531.9	559.6	570.6
59°	335.8	334.3	335.8	373.6	408.0	466.8	531.9	527.1	518.0	542.4	553.9
59.5°	328.6	328.1	323.8	361.1	395.1	450.6	513.7	514.2	503.2	527.1	536.7
60°	320.9	321.4	312.8	349.6	382.2	435.3	497.4	499.8	488.8	513.7	518.5
60.5°	312.8	314.2	301.3	337.7	369.2	420.4	481.6	483.6	475.4	497.4	503.2
61°	305.2	307.1	290.8	327.2	356.3	406.6	464.9	471.1	461.6	483.1	487.9
61.5°	297.5	299.9	281.7	316.2	344.9	393.2	450.6	456.8	448.6	469.7	471.6
62°	289.4	292.2	272.6	305.6	333.9	379.3	436.2	441.9	435.7	454.9	457.3
62.5°	281.7	284.6	267.4	295.6	322.9	365.4	420.9	429.5	423.8	441.9	443.4
63°	274.1	277.4	261.6	285.5	311.9	353.5	408.0	416.6	412.3	429.5	428.1
63.5°	266.4	269.8	256.4	276.0	301.8	341.5	395.1	403.7	400.3	415.2	415.6
64°	258.3	262.6	251.1	266.9	291.8	330.0	382.6	391.2	388.9	403.2	403.2
64.5°	250.6	254.9	245.4	257.3	281.7	318.5	369.7	378.8	376.9	391.2	390.3
65°	243.0	247.8	239.6	248.7	272.6	308.0	356.8	366.4	365.4	379.3	377.9
65.5°	235.3	240.1	233.9	240.6	263.1	297.5	344.9	356.3	353.9	367.3	364.9
66°	227.7	232.9	228.1	232.0	254.0	287.0	333.4	343.9	342.9	355.9	353.0



TEST NUMBER: P776633

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	207.6	210.9	209.5	208.5	228.6	257.8	299.4	311.9	310.9	322.9	319.0
68°	200.9	204.2	202.8	201.4	220.5	248.7	288.9	301.3	300.9	311.9	308.0
68.5°	194.7	197.5	196.6	194.2	212.4	240.1	278.4	290.8	290.3	301.3	297.0
69°	188.5	190.8	190.8	187.0	204.7	231.5	267.8	280.8	280.8	290.8	286.5
69.5°	182.2	184.6	184.6	180.3	197.1	222.4	258.3	270.7	270.7	280.8	276.0
70°	176.0	178.4	177.9	174.1	189.9	214.3	248.2	260.7	260.7	270.7	266.4
70.5°	170.3	171.2	172.2	167.9	182.2	206.1	238.7	251.6	251.6	260.7	256.4
71°	164.5	166.0	166.4	162.1	175.5	198.5	229.6	241.5	242.0	251.6	246.8
71.5°	158.8	160.2	160.2	155.9	168.4	190.4	220.0	232.5	232.5	241.5	237.2
72°	152.6	154.5	154.0	150.2	161.7	182.7	210.9	222.9	222.9	232.0	228.1
72.5°	146.8	148.8	148.3	144.0	155.0	175.5	202.3	213.8	213.8	222.4	218.6
73°	141.1	143.0	142.1	138.7	148.8	167.9	193.7	205.2	204.7	213.8	210.0
73.5°	134.9	137.3	136.3	133.4	142.1	160.7	185.1	196.1	195.6	204.2	200.9
74°	129.1	131.1	130.1	128.7	135.8	154.0	176.5	187.0	186.5	195.1	192.3
74.5°	123.4	125.3	124.8	124.4	129.6	146.8	168.4	178.4	177.9	186.5	183.7
75°	117.7	119.6	119.6	119.6	123.9	140.1	160.2	170.3	169.3	177.9	175.5
75.5°	111.9	113.8	113.8	114.8	117.7	133.9	152.1	161.7	160.7	168.8	166.9
76°	106.2	108.1	108.1	109.5	111.9	127.2	144.9	153.1	152.1	160.7	158.8
76.5°	100.4	102.4	102.8	104.7	106.2	120.5	136.8	144.4	143.5	152.1	150.7
77°	95.2	96.6	97.6	100.0	100.9	114.3	129.6	136.8	135.8	144.0	143.0
77.5°	89.4	90.9	92.3	94.7	95.2	108.1	122.0	128.7	127.2	135.4	135.4
78°	84.2	85.1	87.1	89.9	89.9	101.9	114.8	121.0	119.1	127.7	127.7
78.5°	78.4	79.9	81.8	85.1	84.7	95.7	107.6	112.9	111.4	119.6	120.5
79°	73.2	74.1	77.0	79.9	79.4	89.9	100.9	105.2	103.3	111.4	112.9
79.5°	67.4	68.4	71.7	75.1	74.6	84.2	94.2	97.1	95.7	103.8	105.7
80°	62.2	62.7	66.5	70.3	69.4	78.4	87.5	89.4	88.0	96.1	99.0
80.5°	56.9	57.4	61.7	65.5	64.6	72.7	80.8	82.3	80.4	88.5	91.8
81°	51.7	51.7	56.9	60.7	59.8	67.4	74.6	74.6	72.7	80.8	85.1
81.5°	46.4	46.4	52.1	56.0	55.5	62.2	68.4	67.4	65.5	73.7	78.9
82°	41.1	41.1	47.8	51.7	50.7	56.9	62.2	61.2	58.4	66.5	72.2
82.5°	35.9	36.8	43.0	46.9	46.4	52.1	56.4	54.5	51.7	59.8	66.5
83°	31.1	32.0	38.7	42.6	42.1	46.9	51.2	48.8	45.0	53.1	60.3
83.5°	25.8	27.7	34.9	38.3	37.8	42.6	45.9	43.5	38.3	47.8	54.5
84°	21.0	23.9	30.6	33.5	33.5	37.8	41.1	37.8	31.6	42.1	49.3
84.5°	17.2	20.1	26.8	29.2	29.2	33.0	35.9	32.0	24.9	36.8	44.5
85°	15.3	17.2	23.0	24.9	25.3	28.2	31.1	26.3	21.0	31.6	39.2
85.5°	12.9	14.8	19.1	20.6	21.0	23.4	25.8	22.5	18.2	25.8	34.4
86°	10.5	12.0	15.8	16.3	17.2	19.1	21.5	18.7	15.3	22.0	29.2
86.5°	8.6	9.6	12.0	12.4	13.4	14.8	16.7	15.3	12.9	18.7	24.4
87°	6.2	6.7	8.6	8.6	9.6	10.5	12.4	11.5	10.0	15.3	19.6
87.5°	4.3	4.3	4.8	5.3	5.7	6.7	8.1	8.1	7.7	11.5	15.3
88°	2.4	1.9	1.9	1.4	2.4	3.3	4.3	5.3	5.3	8.1	11.0
88.5°	1.0	0.5	0.5	0.5	0.5	1.0	1.4	2.4	2.4	4.8	6.7



TEST NUMBER: P776633

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0

TEST NUMBER: P776633

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2177.2	2177.2	2177.2	2177.2	2177.2	2177.2
0.5°	2180.6	2179.6	2174.3	2169.6	2166.2	2164.3
1°	2184.4	2179.1	2169.1	2160.5	2154.7	2151.9
1.5°	2188.2	2178.2	2163.8	2150.9	2142.8	2139.0
2°	2191.6	2176.7	2157.6	2141.8	2130.3	2126.0
2.5°	2194.4	2175.3	2151.4	2131.3	2117.4	2112.2
3°	2197.3	2173.4	2145.2	2121.3	2105.0	2098.8
3.5°	2199.7	2171.0	2138.5	2110.7	2092.1	2084.4
4°	2201.6	2168.6	2131.3	2100.2	2078.2	2070.1
4.5°	2203.0	2165.7	2124.1	2088.3	2064.3	2055.3
5°	2204.5	2162.9	2117.0	2077.3	2050.0	2040.4
5.5°	2205.4	2159.0	2109.3	2065.3	2036.1	2024.6
6°	2206.4	2155.7	2101.2	2053.3	2021.3	2009.3
6.5°	2206.9	2151.9	2092.6	2040.9	2006.5	1994.0
7°	2206.9	2147.6	2084.0	2029.4	1991.6	1977.8
7.5°	2206.4	2143.3	2075.3	2016.5	1976.3	1961.0
8°	2205.9	2138.5	2066.3	2003.6	1960.5	1945.2
8.5°	2205.0	2133.2	2057.2	1990.7	1944.8	1928.5
9°	2203.5	2128.0	2047.6	1977.3	1928.5	1911.3
9.5°	2202.1	2122.7	2037.6	1963.4	1912.7	1894.1
10°	2200.2	2117.0	2027.5	1949.5	1896.5	1876.8
10.5°	2197.8	2110.7	2017.5	1936.2	1880.2	1859.2
11°	2195.4	2104.5	2006.9	1921.8	1863.5	1841.9
11.5°	2192.5	2097.8	1996.4	1907.5	1846.2	1824.2
12°	2189.2	2090.6	1985.4	1893.1	1829.5	1805.6
12.5°	2185.8	2084.0	1974.4	1878.3	1812.3	1787.9
13°	2182.0	2076.8	1963.4	1863.5	1795.1	1770.2
13.5°	2177.2	2069.1	1951.9	1848.6	1777.8	1751.5
14°	2173.4	2061.5	1940.9	1833.8	1760.1	1733.4
14.5°	2168.6	2053.3	1929.0	1818.5	1742.4	1714.7
15°	2163.3	2044.7	1917.0	1802.7	1724.7	1696.1
15.5°	2158.1	2036.6	1905.1	1787.4	1706.6	1677.4
16°	2152.3	2028.0	1893.1	1771.6	1688.9	1658.7
16.5°	2146.6	2018.9	1880.7	1756.3	1671.2	1640.6
17°	2139.9	2009.8	1868.2	1740.5	1653.0	1621.4
17.5°	2133.2	2000.2	1855.3	1724.3	1634.8	1602.8
18°	2126.5	1990.7	1842.9	1708.0	1616.7	1583.6
18.5°	2119.3	1980.6	1829.5	1692.2	1598.0	1565.0
19°	2111.7	1970.1	1816.1	1675.5	1579.8	1545.9
19.5°	2104.0	1960.1	1802.7	1659.7	1562.1	1526.3
20°	2095.9	1949.1	1789.3	1643.4	1543.5	1507.6
20.5°	2086.8	1938.1	1775.4	1626.7	1525.3	1488.5
21°	2078.2	1926.6	1761.1	1610.0	1506.6	1469.3

TEST NUMBER: P776633

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2049.5	1890.7	1718.1	1560.2	1451.2	1411.9
23°	2039.5	1877.8	1702.7	1543.5	1432.0	1392.3
23.5°	2028.5	1864.4	1688.4	1526.7	1414.3	1373.7
24°	2017.5	1849.6	1673.1	1509.5	1395.7	1354.5
24.5°	2006.0	1835.7	1657.3	1492.8	1377.0	1334.9
25°	1994.0	1819.9	1641.0	1475.6	1357.9	1316.3
25.5°	1981.6	1804.6	1625.3	1458.3	1340.2	1297.6
26°	1968.2	1787.9	1608.5	1441.1	1321.5	1279.0
26.5°	1954.3	1771.6	1591.3	1423.9	1302.9	1260.3
27°	1940.0	1755.4	1574.1	1406.7	1284.7	1241.7
27.5°	1924.7	1737.7	1556.4	1389.0	1266.5	1223.5
28°	1908.4	1719.0	1538.2	1371.3	1247.9	1204.8
28.5°	1892.2	1701.8	1520.5	1354.1	1229.7	1187.1
29°	1875.4	1683.1	1502.3	1336.8	1212.0	1169.4
29.5°	1857.7	1664.0	1484.2	1319.2	1194.3	1151.3
30°	1840.5	1644.4	1465.0	1301.0	1176.6	1134.0
30.5°	1822.3	1624.3	1446.9	1283.3	1158.9	1116.4
31°	1803.2	1603.7	1427.2	1265.1	1141.2	1099.1
31.5°	1783.1	1582.7	1408.1	1246.9	1123.5	1081.9
32°	1763.0	1562.1	1388.5	1229.2	1106.8	1064.7
32.5°	1742.4	1540.6	1369.4	1210.6	1089.6	1048.0
33°	1720.9	1518.1	1349.3	1192.4	1072.3	1031.2
33.5°	1699.4	1496.1	1329.2	1174.2	1055.6	1014.5
34°	1676.4	1474.1	1309.1	1155.6	1038.9	998.2
34.5°	1654.0	1451.2	1289.0	1136.9	1022.6	981.0
35°	1631.0	1428.7	1268.5	1118.3	1005.9	964.7
35.5°	1607.6	1404.8	1248.4	1100.1	989.6	948.5
36°	1583.6	1382.3	1227.8	1082.4	972.9	932.7
36.5°	1558.8	1358.8	1207.2	1064.2	957.1	916.4
37°	1534.4	1334.5	1186.7	1046.0	940.8	900.2
37.5°	1509.5	1311.0	1166.1	1027.4	925.0	883.9
38°	1484.2	1286.1	1145.5	1009.2	908.3	867.6
38.5°	1458.3	1262.2	1124.5	991.5	892.5	851.9
39°	1433.0	1237.8	1103.9	973.8	877.2	836.5
39.5°	1407.2	1213.9	1083.3	956.6	861.4	820.3
40°	1380.9	1189.1	1062.8	938.4	844.7	804.5
40.5°	1354.1	1164.7	1041.7	920.7	829.4	788.7
41°	1327.3	1140.3	1021.2	903.5	814.1	772.9
41.5°	1301.0	1115.9	1000.1	885.8	797.8	757.6
42°	1273.7	1092.0	979.6	868.6	782.5	741.8
42.5°	1247.9	1067.6	959.0	851.4	766.7	726.5
43°	1220.6	1043.2	938.9	834.2	751.9	711.2
43.5°	1193.4	1019.3	918.3	816.9	735.6	695.4

TEST NUMBER: P776633

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1114.0	948.5	858.5	766.7	690.7	650.0
45.5°	1087.7	925.0	838.5	750.5	674.9	634.7
46°	1060.9	902.1	819.8	734.2	660.5	620.4
46.5°	1035.0	879.1	799.7	717.4	645.2	604.6
47°	1008.7	856.6	780.6	701.2	630.4	589.7
47.5°	983.4	834.2	761.5	684.9	615.1	574.9
48°	957.6	812.2	743.3	669.1	600.7	560.6
48.5°	932.7	790.2	724.6	653.4	585.9	545.3
49°	907.3	769.1	706.0	637.6	571.1	530.9
49.5°	882.9	748.1	687.8	621.8	556.3	516.6
50°	858.1	726.5	670.6	606.0	541.9	501.7
50.5°	834.2	706.4	652.4	590.7	527.6	486.9
51°	810.7	686.4	635.2	575.4	512.7	473.0
51.5°	787.8	666.7	618.0	560.6	498.4	458.7
52°	764.3	647.6	601.2	545.3	484.5	444.8
52.5°	740.9	628.5	584.5	530.9	470.6	430.9
53°	718.4	610.3	568.7	516.1	456.3	418.0
53.5°	696.9	592.6	552.0	501.7	441.9	405.6
54°	674.9	574.9	536.2	487.4	428.6	397.9
54.5°	654.3	558.2	521.3	473.5	415.2	392.7
55°	634.2	541.9	506.0	459.6	402.2	386.9
55.5°	614.1	525.7	491.7	446.3	389.3	381.7
56°	595.0	510.3	476.9	432.9	377.4	375.5
56.5°	576.4	495.0	463.0	419.5	370.7	369.2
57°	558.7	480.2	449.1	406.6	365.4	363.5
57.5°	541.0	465.9	436.2	393.6	359.7	356.8
58°	524.2	452.0	423.3	381.2	353.9	350.6
58.5°	508.0	438.6	410.4	369.2	347.7	343.4
59°	491.7	425.7	397.9	357.3	341.5	335.8
59.5°	476.4	412.8	386.0	345.3	335.8	328.6
60°	461.6	399.9	374.0	333.9	329.1	320.9
60.5°	447.2	387.9	362.6	322.9	322.4	312.8
61°	433.3	375.9	351.1	311.9	315.7	305.2
61.5°	419.5	364.9	340.5	301.8	308.5	297.5
62°	407.0	353.5	330.0	291.8	300.9	289.4
62.5°	394.6	342.5	320.0	282.2	293.7	281.7
63°	382.2	331.9	309.5	273.6	286.5	274.1
63.5°	369.7	321.4	299.9	266.9	279.3	266.4
64°	357.3	310.9	289.8	261.6	271.7	258.3
64.5°	345.3	301.3	280.8	256.4	264.5	250.6
65°	334.3	291.8	271.7	251.1	257.3	243.0
65.5°	323.3	282.7	263.1	245.4	250.2	235.3
66°	312.8	273.1	254.5	239.6	242.5	227.7



TEST NUMBER: P776633

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	282.7	247.3	230.1	222.4	221.0	207.6
68°	272.6	238.7	222.4	216.2	213.8	200.9
68.5°	263.5	230.5	215.2	210.5	207.1	194.7
69°	254.5	222.4	207.6	204.2	200.4	188.5
69.5°	245.4	214.8	200.4	198.0	193.7	182.2
70°	236.8	207.1	193.7	191.8	187.5	176.0
70.5°	228.1	199.9	187.0	185.6	181.3	170.3
71°	220.0	192.3	179.8	179.4	175.1	164.5
71.5°	211.4	185.1	174.1	173.1	169.3	158.8
72°	203.8	177.9	167.9	167.4	163.1	152.6
72.5°	195.6	172.2	161.7	161.2	157.4	146.8
73°	188.0	165.5	155.9	155.4	151.1	141.1
73.5°	180.3	158.8	149.7	149.2	145.4	134.9
74°	173.1	151.6	144.0	143.5	139.2	129.1
74.5°	165.5	144.9	138.2	137.8	133.4	123.4
75°	158.3	138.7	133.0	132.0	127.2	117.7
75.5°	151.6	132.5	127.7	126.7	121.5	111.9
76°	144.4	126.3	122.9	121.0	115.3	106.2
76.5°	137.8	120.5	118.1	115.3	109.5	100.4
77°	131.1	114.3	113.4	110.0	103.8	95.2
77.5°	124.4	108.6	108.6	104.3	98.1	89.4
78°	118.1	102.8	103.3	99.0	92.3	84.2
78.5°	111.4	97.6	98.5	93.7	86.6	78.4
79°	105.2	91.8	93.3	88.5	80.8	73.2
79.5°	99.0	86.6	88.5	83.2	75.1	67.4
80°	92.8	81.3	83.2	78.0	69.4	62.2
80.5°	87.1	76.0	78.4	72.7	64.1	56.9
81°	81.3	70.8	73.2	67.9	58.4	51.7
81.5°	75.6	66.0	68.4	62.7	53.1	46.4
82°	69.8	61.2	63.6	57.9	48.3	41.1
82.5°	64.6	56.4	58.8	53.1	43.0	35.9
83°	59.3	51.7	54.0	48.8	38.3	31.1
83.5°	54.0	46.9	49.3	44.0	33.5	25.8
84°	48.8	42.6	45.0	39.7	29.2	21.0
84.5°	44.0	37.8	40.2	35.4	25.3	17.2
85°	39.2	33.5	35.4	31.1	21.5	15.3
85.5°	34.4	29.2	31.1	26.8	18.7	12.9
86°	29.7	25.3	26.3	23.0	15.8	10.5
86.5°	24.4	21.0	22.0	18.7	12.9	8.6
87°	20.1	17.2	17.7	14.8	10.0	6.2
87.5°	15.8	13.4	13.4	11.5	7.2	4.3
88°	11.5	9.6	9.6	7.7	4.8	2.4
88.5°	7.2	5.7	5.7	3.8	2.4	1.0



TEST NUMBER: P776633

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.5	0.0

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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Scaled Data Report



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Scaled Data Report





21.5°	1449.7	1484.6	1590.3	1747.2	1932.3	2087.8	2201.6	2269.1	2290.6	2257.1	2182.0
22°	1431.1	1466.0	1573.1	1732.4	1919.9	2078.2	2194.0	2262.4	2283.9	2249.9	2174.3



44°	680.6	708.8	780.6	882.5	1002.5	1168.0	1312.9	1229.2	1160.8	1232.6	1316.3
44.5°	665.3	693.5	763.8	861.9	978.1	1141.2	1281.4	1202.0	1132.1	1206.3	1284.7



66.5°	221.0	225.8	221.5	223.8	245.4	276.9	321.4	333.4	331.9	344.4	341.5
67°	213.8	218.1	215.2	216.2	236.8	267.4	310.4	322.4	321.4	333.9	329.5



89°	0.0	0.5	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.9	2.9
89.5°	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	1.0

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21.5°	2069.1	1915.1	1746.7	1593.7	1488.0	1449.7
22°	2059.6	1902.7	1732.4	1577.0	1469.3	1431.1



44°	1166.6	995.8	898.2	800.2	721.3	680.6
44.5°	1140.7	971.9	878.2	783.5	705.5	665.3

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Scaled Data Report



66.5°	302.3	264.5	246.3	234.4	235.3	221.0
67°	292.2	255.4	238.2	228.6	228.1	213.8



89°	3.3	1.9	1.9	1.4	0.5	0.0
89.5°	1.0	0.5	0.5	0.5	0.5	0.0

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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)